

**PATENT COOPERATION TREATY**

From the:  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

WATERMARK PATENT & TRADEMARK  
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**WATERMARK  
MELBOURNE**  
RECD 17 MAR 2005

**PCT**  
NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY EXAMINATION  
REPORT

(PCT Rule 71.1)

Applicant's or agent's file reference  
P22149PCAU

**IMPORTANT NOTIFICATION**

International Application No.  
PCT/AU2003/001709

International Filing Date  
23 December 2003

Priority Date  
23 December 2002

Applicant  
MARS INCORPORATED et al

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translations to those Offices.

**4. REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide

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**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>P22149PCAU</b>	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International Application No. <b>PCT/AU2003/001709</b>	International Filing Date (day/month/year) <b>23 December 2003</b>	Priority Date (day/month/year) <b>23 December 2002</b>
International Patent Classification (IPC) or national classification and IPC <b>Int. Cl. 7 A23G 1/00, 1/04</b>		
Applicant <b>MARS INCORPORATED et al</b>		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheet(s).</p>																									
<p>3. This report contains indications relating to the following items:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; padding: 2px;">I</td> <td style="width: 10%; padding: 2px;"><input checked="" type="checkbox"/></td> <td style="width: 80%; padding: 2px;">Basis of the report</td> </tr> <tr> <td>II</td> <td><input type="checkbox"/></td> <td>Priority</td> </tr> <tr> <td>III</td> <td><input type="checkbox"/></td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td>IV</td> <td><input checked="" type="checkbox"/></td> <td>Lack of unity of invention</td> </tr> <tr> <td>V</td> <td><input checked="" type="checkbox"/></td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td>VI</td> <td><input type="checkbox"/></td> <td>Certain documents cited</td> </tr> <tr> <td>VII</td> <td><input type="checkbox"/></td> <td>Certain defects in the international application</td> </tr> <tr> <td>VIII</td> <td><input checked="" type="checkbox"/></td> <td>Certain observations on the international application</td> </tr> </table>		I	<input checked="" type="checkbox"/>	Basis of the report	II	<input type="checkbox"/>	Priority	III	<input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	IV	<input checked="" type="checkbox"/>	Lack of unity of invention	V	<input checked="" type="checkbox"/>	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	VI	<input type="checkbox"/>	Certain documents cited	VII	<input type="checkbox"/>	Certain defects in the international application	VIII	<input checked="" type="checkbox"/>	Certain observations on the international application
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VIII	<input checked="" type="checkbox"/>	Certain observations on the international application																							

Date of submission of the demand <b>20 July 2004</b>	Date of completion of the report <b>8 March 2005</b>
Name and mailing address of the IPEA/AU <b>AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929</b>	Authorized Officer  <b>CHRISTOPHER LUTON</b> Telephone No. (02) 6283 2256

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AU2003/001709

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

the international application as originally filed.

the description, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of

the claims, pages , as originally filed,  
pages , as amended (together with any statement) under Article 19,  
pages , filed with the demand,  
pages , received on with the letter of

the drawings, pages , as originally filed,  
pages , filed with the demand,  
pages , received on with the letter of

the sequence listing part of the description:  
pages , as originally filed  
pages , filed with the demand  
pages , received on with the letter of

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

the language of publication of the international application (under Rule 48.3(b)).

the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in written form.

filed together with the international application in computer readable form.

furnished subsequently to this Authority in written form.

furnished subsequently to this Authority in computer readable form.

The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4.  The amendments have resulted in the cancellation of:

the description, pages

the claims, Nos.

the drawings, sheets/fig.

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:

- restricted the claims.
- paid additional fees.
- paid additional fees under protest.
- neither restricted nor paid additional fees.

2.  This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- complied with.
- not complied with for the following reasons:

Independent claims 1 and 8 relate to aerated chocolate having a uniformly small bubble size and a process for the production thereof. Page 13, lines 12-14 indicates that this aspect of the invention is achieved by increasing the speed of the mixer head. Independent claim 17 merely relates to a chocolate manufacturing process whereby a tempering step is omitted. Claim 17 does not include any features limiting the final bubble size of the product. Consequently, independent claim 17 does not share a special technical feature with the other independent claims.

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- all parts.
- the parts relating to claims Nos.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AU2003/001709

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims 1-7, 12, 13, 19, 20	YES
	Claims 8-11, 14-18	NO
Inventive step (IS)	Claims 12, 13, 19, 20	YES
	Claims 1-11, 14-18	NO
Industrial applicability (IA)	Claims 1-20	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

The following documents identified in the International Search Report have been considered for the purposes of this report:

D1 – WO 2001/080660 A1  
 D2 – WO 2001/015543 A1  
 D3 – WO 2001/030174 A1  
 D4 – EP 0730826 A1

The present invention relates to a chocolate product having gas micro-bubbles and methods for the manufacture thereof.

NOVELTY (N) and INVENTIVE STEP (IS)

D1 teaches the incorporation of gas into chocolate with a rotor mixing at high speed (see page 9, line 22 and claims 21-22). According to the present specification at page 13, lines 12-14, this is how the present invention is achieved. D1 also teaches that bubble improve stability. Therefore, claims 8-11 and 14-16 are not novel and do not involve an inventive step in light of D1.

In response to the first International Preliminary Examination Opinion, the Applicant submitted that the claims are distinguished from D1 on the basis that the process of D1 requires the presence of a tempering step at a certain stage. However, as claims 8-11 and 14-16 are silent with respect to this feature, they are not distinguished from the disclosure of D1. The Applicant subsequently submitted that claim 8 specifically requires that the stated steps be carried out in the specified order and that such requirement therefore excludes a tempering step. However, the mere fact that steps a) to f) are carried out in the specified order is not considered to necessarily exclude a tempering step from the overall scope of the claim. The actual wording of claim 8 does not suggest that the process consists exclusively of steps a) to f). Indeed, the word "including" is construed such that any method "including" steps a) to f) in the specified order would fall within the scope of the claim. Page 9 of D1 describes a process having (viz. "including") all of the essential features of claim 8 in the specified order. The fact that the method of D1 includes a tempering step does not alter this fact.

D1 does not disclose a product with gas bubbles having an average size of less than 25 microns and does not teach omission of the tempering step. Therefore, claims 1, 17 and claims dependent therefrom are novel and involve an inventive step in light of D1.

D2 teaches chocolate with microscopic bubbles (see page 3, line 12), but does not disclose or suggest a product having gas bubbles with an average diameter of less than 25 microns. D2 does not disclose or suggest the method of claim 8. In response to the first International Preliminary Examination Opinion, the Applicant asserted that the chocolate of D2 would necessarily have involved a tempered chocolate mass prior to the aeration step. Therefore, claims 1, 8, 17 and claims dependent therefrom are novel and involve an inventive step in light of D2.

(continued )

**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Page 5, line 28 indicates that the invention relates to the omission of a tempering step. Page 13, lines 12-14 indicate that the invention relates to the use of a certain mixing head speed. It is not clear whether these two features represent separate inventions or whether both features are essential to the working of the invention. None of the independent claims are limited to both features.

In response to the above observations, the Applicant suggested that the specific rotor speeds identified on page 13 are not an essential feature of the invention. The Applicant submitted that "essentiality" resides in the choice of an aerator device which allows the uniform diffusion of gas bubbles into the liquid chocolate mixture thereby to achieve average bubble sizes of less than 25 microns, and preferably, 17 microns.

Thus, it would seem that the use of "an aerator device which allows the uniform diffusion of gas bubbles into the liquid chocolate mixture thereby to achieve average bubble sizes of less than 25 microns" is an essential feature of the invention. However, this feature is absent from claims 8 and 17. Claims 8 and 17, therefore, do not define the subject matter for which protection is sought in terms of the technical features of the invention (Rule 6.3(a)).

Also in response to the first International Preliminary Examination Opinion, the Applicant submitted that the "invention comprises, as one distinguishing feature, the absence of a specific or dedicated tempering machine/device such as temper-kettles or automatic temperers". This would therefore appear to be an essential feature of the invention. However, the product of claim 1 is not limited to being obtained by a method that excludes such a tempering step. Moreover, claim 8 does not define a process that excludes the tempering step. Therefore, claims 1 and 8 fail to define an essential feature of the invention.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

**Continuation of Box V**

D3 teaches aeration of chocolate by the use of shearing forces (eg. rotors) to reduce bubble size to any desired size (page 4, line 15). In response to the first International Preliminary Examination Opinion, the Applicant submitted that D3 does not identify "any desired" size or any numerical value of the bubble size. However, D3 discloses a method for the reduction of bubble size. In the absence of any teaching to the contrary, the method of D3 may be employed to produce a chocolate having gas bubbles with an average diameter of less than 25 microns. Consequently, claim 1 and claims dependent therefrom do not involve an inventive step in light of D3.

D4 discloses the incorporation of bubbles with a diameter of about 5 microns into chocolate without the use of a tempering step (column 6, lines 31-44). In light of this disclosure there existed no problem in the art to overcome in the provision of such a chocolate having a sugar based, shell coating. Consequently, claim 1 and claims dependent therefrom do not involve an inventive step in light of D4.

In response to the first International Preliminary Examination Opinion, the Applicant submitted that D4 teaches subsequent removal of the air from the chocolate (column 5, lines 21-48). This does not detract from the fact that D4 nevertheless teaches a method for the introduction of gas bubbles having an average diameter of less than 25 microns. That is, D4 addresses the problem of providing such bubbles into a chocolate. The skilled addressee would readily have appreciated that the gas removal step could be omitted.

The process of D4 includes the formation of a chocolate mixture and the transfer of that mixture to an aeration device including mechanical mixing means. Thus, D4 discloses all of the essential features of claim 17. Consequently, claim 17 and claims dependent therefrom are not novel and do not involve an inventive step in light of D4. Although this disclosure may only form one part of the overall process of D4, it nevertheless anticipates the process of claim 17.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2003/001709

### Box I

#### Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:

because they relate to subject matter not required to be searched by this Authority, namely:

2.  Claims Nos.:

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3.  Claims Nos.:

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

### Box II

#### Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Independent claims 1 and 8 relate to aerated chocolate having a uniformly small bubble size and a process for the production thereof. Page 13, lines 12-14 indicates that this aspect of the invention is achieved by increasing the speed of the mixer head. Independent claim 17 merely relates to a chocolate manufacturing process whereby a tempering step is omitted. Claim 17 does not include any features limiting the final bubble size of the product. Consequently, independent claim 17 does not share a special technical feature with the other independent claims.

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims

2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/AU2003/001709

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member			
WO	0180660	AU	30088/00	AU	50179/01
		CA	2406625	EP	1276385
WO	0115543	AU	67128/00		
WO	0131074	EP	1149179	IT	RM990651
EP	0730826	US	5958489		
END OF ANNEX					

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU2003/001709

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
Int. Cl. <sup>7</sup> : A23G 1/00, 1/04		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) IPC (WPIDS) AND CHEMICAL ABSTRACTS		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched SEE BELOW		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPIDS, CA, FSTA. Keywords: bubble?, microbubble?, aerat?, chocolate, micro?, A23G001, A23G007		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
<u>X</u> <u>Y</u>	WO 2001/080660 A1 (EFFEM FOODS PTY LTD.) 1 November 2001. See page 9, line 22 (compare with present specification page 13, lines 12-14).	<u>8-11, 15-16</u> <u>1-20</u>
<u>X</u> <u>Y</u>	WO 2001/015543 (APV LIMITED) 8 March 2001. See page 3, lines 12-13. No tempering step is taught.	<u>1-20</u> <u>1-20</u>
<u>Y</u>	WO 2001/030174 (APV LIMITED) 3 May 2001. See page 4, lines 14-16.	1-20
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C		<input checked="" type="checkbox"/> See patent family annex
<p>* Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>		
Date of the actual completion of the international search 10 March 2004	Date of mailing of the international search report 16 MAR 2004	
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer <b>CHRISTOPHER LUTON</b> Telephone No : (02) 6283 2256	

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2003/001709

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	EP 0 730 826 A1 (MAZZONI LB FOOD) 11 September 1996. See column 6, lines 31-44.	1-20 1-20